



Montana Fish, Wildlife & Parks

Notice of Decision

Removal of Nonnative Fishes with Rotenone and Restoration of Westslope Cutthroat Trout to Dry Fork Belt Creek

May 12, 2014

Proposed Project

The proposed project is to remove non-native fishes in the mainstem of the Dry Fork of Belt Creek and a few tributaries with the use of the fish toxicant rotenone. This project would follow the construction of a fish barrier in 2014 on National Forest lands approximately 1.8 miles upstream of the confluence of the Dry Fork Belt Creek (Dry Fork Creek) and Belt Creek.

Evaluation of the proposed alternative and potential effects/impacts of this approach indicate construction of the fish barrier would have minor, short-term and localized impacts on water quality. Impacts from the piscicide treatment would also be short term and limited to areas that currently hold brook trout and rainbow trout. Dry Fork Belt Creek is typically dry in the area of barrier construction and at the lower end of the proposed piscicide treatment. No rotenone would be able to pass dry reaches of Dry Fork Creek. Moreover, the aquifer in Dry Fork Creek is completely distinct from the Belt Creek aquifer. Detoxification with potassium permanganate would not be necessary at the lower bound of the treatment area. Detoxification equipment would be kept on site in the unlikely event that summer rains were to connect the dry reach of stream. Rotenone is toxic to gilled organisms at exceedingly low concentrations (50 ppb), resulting in a temporary reduction of gilled aquatic invertebrates, although many species are resilient to this level of rotenone. The concentration of rotenone needed to kill fish is far below levels that would be harmful to other organisms exposed to the fish toxicant. Treatment with rotenone would be limited to areas holding non-native fishes. In addition, in areas that hold both WCT and non-native fish efforts will be made to rescue these fish. A bioassay would be conducted to allow determination of the lowest effective concentration of rotenone necessary to achieve project goals.

Currently, 20 genetically pure populations of WCT occupy 31 miles of stream in the entire Belt Creek drainage (12% of historically occupied habitat) and 17 populations of slightly hybridized WCT occupy 52 miles of stream (21% of historically occupied habitat); importantly, the majority of slightly hybridized populations are at continued risk of hybridization and competition with non-native species. The estimated total miles of historically occupied habitat (WCT) in the greater Belt Creek watershed was about 240 miles of stream. The proposed barrier site on the Dry Fork of Belt Creek has the potential to provide over 26 miles of habitat for WCT with

predicted improved water quality conditions after cleanup efforts. The northcentral Montana subbasin plan identifies the need to protect current populations of slightly hybridized and pure WCT in the headwaters of the Dry Fork of Belt Creek drainage, including; Sawmill Creek, Spruce Creek, Bender Creek, Gold Run Creek, and upper Dry Fork: the proposed barrier site and fish removal plans would accomplish this goal.

The EA considered 3 Alternatives:

- **Alternative 1 – No Action**
- **Alternative 2 - Proposed Action – Removal of non-native fishes with piscicides and expansion of existing native WCT populations downstream.**
- **Alternative 3 – Mechanical removal or change in harvest regulations**

The proposed action (Alternative 2) would include:

1. Removal of non-native fishes from mainstem Dry Fork and several tributaries with piscicides (rotenone) upstream of a cast in place concrete fish barrier (USFS CERCLA Decision expected June, 2014).
2. Natural expansion of existing populations of WCT into downstream reaches where non-native fishes would be removed.
3. Limited transfer of juvenile and adult WCT or fertilized eggs into downstream reaches of Dry Fork Creek

Proposed mitigation for the temporary reduction in a recreational fishery after piscicide removals and the change from a primarily brook trout fishery to native WCT fishery:

1. Temporary stocking of sterile WCT obtained from Washoe Park Hatchery (Anaconda Montana). This stocking would provide a recreational fishery during the period just after treatment to full colonization by upstream sources of westslope cutthroat trout.
2. Future change in regulations to allow a limited harvest of WCT in the Dry Fork of Belt Creek – currently there is a 20 fish limit for brook trout in the project area, potential harvest limits for restored WCT would be lower and based on the status of recovery.

Alternative 1 – No action

If no action is taken, status quo management of the fisheries in the Dry Fork of Belt Creek would occur and there would be the potential for increases in the range of non-native fishes with concomitant negative impacts to remnant WCT populations. Under this scenario, competition

and exclusion would continue to occur – and potentially increase - in the upper Dry Fork Belt Creek tributaries as water quality improves with mine reclamation. Several existing populations of WCT may be eliminated, increasing the overall risk of extinction for the species, a net loss of genetic diversity within the species, and an increase in the potential for future listing under the Endangered Species Act. *Because the goal of permanently restoring a connected population of WCT in the Dry Fork drainage would not be attained through this alternative it was eliminated from additional consideration.*

Alternative 3 – Mechanical removal or change in harvest regulations

This alternative would include mechanical removal of non-native fishes from 20 miles of stream. This alternative would be extremely costly and would likely only provide for short term increases in abundance of westslope cutthroat trout. The most abundant non-native fish in the mainstem of Dry Fork Belt Creek is brook trout (*Salvelinus fontinalis*). Brook trout spawn in the fall and WCT spawn in the spring. Because brook trout spawn in the fall they emerge months earlier than WCT. This early emergence gives them a competitive and predatory advantage over WCT. In addition, brook trout are sexually mature at ages 1 and 2. WCT are sexually mature at ages 3 and 4. Mechanical removal of brook trout would not eliminate all brook trout in the drainage because of the size and complexity of the stream – eventually brook trout would likely once again displace any short term gains in WCT abundance. Harvest regulations in the Dry Fork are already very lenient – 20 fish daily. Even with the current daily limits, brook trout are very abundant. *Because the goal of permanently restoring a connected population of WCT in the Dry Fork drainage would not be attained through this alternative it was eliminated from additional consideration.*

History of the Problem and Impetus for the Proposed Action

The Dry Fork of Belt Creek (Dry Fork Creek) has a long history of hard rock mining. The Block P and other mines produced lead-silver ores from prior to the 1800's until the 1940's resulting in accumulated mine waste adjacent to the Dry Fork of Belt Creek and Galena Creek. The Environmental Protection Agency (EPA) listed the Dry Fork Belt Creek area as a federal Superfund site in 2001 due to the threat of metals contamination to humans and the environment. The mining effects rendered segments of Dry Fork Creek uninhabitable for fish and most other aquatic species. The EPA and the Forest Service have negotiated and reached agreement with responsible parties (PRPs) to conduct cleanups in this drainage which has resulted in two major removal efforts, one still ongoing. Mine reclamation at the Block P mine complex was initiated in 2011 and will continue into 2012-13. The Block P and its adjacent mines are primary contributors to water quality degradation in the Dry Fork of Belt Creek (Techlaw, Inc., February, 2011; Barr Engineering, Inc., 2011 – *all references are available upon request*). The scope of the PRP negotiated cleanups have been limited to direct waste removal and placement in a repository. EPA also recovered limited cleanup costs from the Asarco LLC bankruptcy and some of these funds are being used as cash match in this project. Recently, efforts have begun to reclaim mine waste in the headwaters of Dry Fork Creek. Previously fishless areas of upper Dry Fork Creek, specifically Galena Creek may at some time be able to support fish populations. The improvement of water quality conditions for fish will have the unwanted effect of putting

existing remnant populations of westslope cutthroat trout (WCT) at increased risk of invasion by non-native fish species. Non-natives residing downstream could potentially invade the barren reaches of Dry Fork of Belt Creek. This access may threaten partially protected populations of WCT as water quality conditions improve following mine reclamation.

The Dry Fork of Belt Creek currently supports five tributary populations of WCT greater than 99% genetic purity. The mainstem of Dry Fork Creek supports primarily non-native brook trout. Other species present in lower numbers in the Dry Fork include: rainbow trout, hybridized WCT, and long nosed dace. The status and conservation needs of WCT in Montana have been well described in several documents. The most recent comprehensive multi-state Status Assessment (Shepard et al. 2003) described the distribution and abundance of WCT along with threats to persistence range wide. The Conservation Agreement (MFWP, 2007) presented the results of the status assessment and specified specific objectives and goals to protect current populations of WCT and restore WCT where feasible. Both documents describe the need to protect WCT populations with fish barriers where necessary and when possible protect larger metapopulations (i.e. numerous connected tributary populations).

In the absence of barriers to upstream movement of non-native fishes, WCT are vulnerable to hybridization with rainbow trout (Hitt et al. 2003; Leary et al. 1995) and displacement by brook trout (Fausch et al. 2009). Mainstem Dry Fork Creek is currently dominated by the aforementioned non-native fishes. Non-hybridized WCT currently occupy less than 4% of historically occupied habitat in northcentral Montana (Moser, 2011). Hybridized populations of WCT (< 1% hybridization) occupy approximately 6 miles of a total of 26 miles of historically occupied habitat in the Dry Fork drainage (MFWP 2012). All of the existing non-hybridized populations are relegated to small sections of headwater streams and are in some cases protected or partially protected from non-native fishes by waterfalls or man-made barriers. MFWP stocking records indicate that 18,160 rainbow trout were stocked in Dry Fork Creek from 1945 to 1950, 3,000 brook trout were stocked from 1940 to 1947, and 55,000 Yellowstone cutthroat were stocked from 1928 to 1950.

Need, Immediacy, Severity

This project mitigates for potential losses of WCT due to mining related damages and subsequent cleanup activities in the Dry Fork of Belt Creek drainage in the Barker-Hughesville mining district. The Barker-Hughesville Superfund site was listed on the National Priorities List of the nation's most contaminated sites in 2001. The listing of this site was a result of water quality and sediment sampling that indicated heavy metals including lead, zinc and arsenic and other metals were directly impacting the surface waters of the Dry Fork of Belt Creek watershed. Over 45 sites and surface and groundwater locations have been inventoried in this basin as contributors to this problem. Native fisheries were decimated by the mining related impacts in the watershed and over time non-native fish species have become the dominant fishery. While progress in water quality improvement is necessary, it cannot occur at the expense of a sensitive species of fish or the overall goal of mine waste cleanup would be diminished. Thus, the parallel effort to protect and enhance native WCT is necessary and time critical and EPA has provided resources in support of this effort. Ultimately, one of the overall goals of water quality improvement in this drainage after human health is aquatic habitat improvement.

Westslope cutthroat trout were first described by Lewis and Clark in 1805 near Great Falls, Montana. WCT are recognized as one of 14 interior subspecies of cutthroat trout and are found in Alberta, Idaho, Washington, and Montana. In Montana, WCT occupy the Upper Missouri River drainages east of the Continental Divide and the Upper Columbia Basin west of the Continental Divide (Behnke 1992). Although still widespread, WCT distribution and numbers have declined significantly in the past 100 years due to a variety of causes, including loss of habitat, competition and predation from non-native fish species, and hybridization (Shepard et al. 2003, Shepard et al. 1997, McIntyre and Rieman 1995, Liknes 1984, Hanzel 1959). Genetically unaltered WCT currently occupy approximately 8% of their historic habitat across their entire range (Shepard et al. 2003).

The marked decrease in WCT density and distribution led to them being designated in 1972 as a State Species of Special Concern by the MFWP. WCT were petitioned for listing as threatened under the federal Endangered Species Act in June 1997. The state of Montana developed a statewide WCT Conservation Agreement in 1999 (MFWP 1999) with the help of a technical committee formed in 1994 and a steering committee formed in 1996. The Conservation Agreement was signed by several state and federal agencies as well as several non-government organizations. In 2000, a northcentral Montana WCT restoration plan was developed to implement the goals and objectives of the WCT Conservation Agreement (Tews et al. 2000). In 2007, an updated restoration plan (Moser et al. 2009) was drafted to monitor WCT restoration progress and refocus goals toward objectives outlined in an updated WCT Conservation Agreement (MFWP 2007).

In April of 2000, following an extensive status review, the U.S. Fish and Wildlife Service (USFWS) determined that westslope cutthroat trout were “not warranted” for federal listing. That finding was challenged in federal court, and the court remanded the not warranted finding back to the USFWS for additional review. In 2003, after additional review, the USFWS determined that WCT are not likely to become a threatened or endangered species in the foreseeable future, therefore listing was not warranted. The second finding of “not warranted” is again being challenged in federal court.

Public Benefits Narrative

The preferred alternative directly benefits native fish populations and the public who fish for them. The Dry Fork drainage is a popular dispersed recreation area for nearby residents and recreationists from Great Falls. This project will ensure that westslope cutthroat trout, Montana’s State fish and the only trout native to the Dry Fork of Belt Creek drainage is preserved over the short and long term by providing for expansion and protection of its habitat.

The cutthroat trout is the State Fish of Montana. The WCT is the only trout native to the Missouri River drainage. WCT are part of the history and legacy of Montana. Currently, state fishing regulations are catch and release only for WCT in streams and rivers. If this project were implemented, WCT populations in Dry Fork Creek would likely reach densities high enough to allow limited harvest by the public. This project would directly benefit the public by expanding

the native populations of WCT downstream to more highly fished areas; while still allowing a limited harvest for human consumption.

Most reaches of Dry Fork Belt Creek would have very low densities of fish several years post treatment. MFWP plans to mitigate for this lost fishing opportunity through stocking of sterile hatchery WCT (M012 strain, Washoe Park Fish Hatchery). These stocked fish should grow rapidly in Dry Fork Creek and MFWP would consider allowing harvest of these fish.

Projects which restore WCT to historical habitats are crucial to preventing future listing of WCT under the Endangered Species Act. If WCT were to ever be listed as threatened or endangered there is a potential for increased federal regulatory restrictions on land use.

Public Involvement:

In compliance with the Montana Environmental Policy Act, an Environmental Assessment (EA) was prepared and circulated for public comment from March 23, 2014 to May 1, 2014. In 2012, a scoping letter, which included a project summary and area map, was mailed to grazing lessees on National Forest allotments, conservation groups, non-governmental organizations, governmental organizations, and tribal governments. The letter was also sent to landowners adjacent to project streams throughout the Dry Fork Belt Creek drainage. No comments or concerns were received as a result of this outreach. On March 25th, 2014 a letter was sent to aforementioned parties as well as landowners adjacent to Belt Creek in Monarch, Montana informing them of the project EA and requesting comment. A news release was sent out on March 24 describing the project, inviting comment and making the public aware of a public meeting to be held at the Monarch-Neihart Community Center (6:30 PM April 23rd). A detailed article describing the project, inviting comments, and informing the public of the public meeting was printed by the Great Falls Tribune on March 24th, 2014. Copies of the EA were made available at the State Library in Helena, the FWP Region 4 Headquarters in Great Falls, and the FWP public notices internet web site. Several e-mails and phone calls were received requesting additional information on the project. Detailed information was provided to interested parties.

One comment letter from the Pat Barnes Chapter of Trout Unlimited was received in support of the project. An e-mail correspondence in support of the project was received from the Missouri River Fly Fishers Chapter of Trout Unlimited. An e-mail was received stating that they had no objection as long as Belt Creek was not involved - the commenter was assured that Belt Creek is not within the project area. Also, an e-mail was received in support of the Dry Fork Belt Creek project and WCT restoration projects in general. A public meeting was held at 6:30 at the Monarch – Neihart Community Center on April 23rd, 2014. One member of the public attended and was supportive of the project.

Two letters with suggestions/questions related to the project were received during the comment period – responses to comments forthwith:

Response to Comment Letter #1

First, I think a concerted effort is needed to increase public awareness and understanding of the restoration project prior to and during its implementation.

Response: There has been and will be a concerted effort to increase public awareness of this project – see previous Public Involvement paragraph.

The proposed stocking of cutthroat after treatment in order to compensate for temporary loss of fishing opportunities should go a long way to soften the impact of non-native fish removal. However, care may be needed to avoid creating unrealistic expectations of sustainable harvest levels for the future recovered WCT population.

Response: Should the project proceed and be successful, FWP sees no reason why mainstem Dry Fork Belt Creek could not maintain a self-sustaining harvestable fishery, albeit at a potentially lower daily limit. One of the primary goals of the WCT Memorandum of Understanding and Conservation Agreement (MFWP 2007) is to restore populations to harvestable levels. Dry Fork of Belt Creek and its tributaries are certainly large enough to support some harvest with little impact on the demographics of this metapopulation.

Second, managing livestock use of the stream system on private lands as well as on Forest Service grazing allotments during the rotenone treatment period will likely require considerable prior engagement with landowners and permittees. Obtaining their cooperation is critical to maximizing the efficiency and effectiveness of the treatments, and ultimately the success of the project.

Response: FWP and USFS personnel have been working cooperatively from the inception of this project to engage and inform permittees and private landowners. Communication with the primary landowner along mainstem Dry Fork Creek was limited to phone calls because of busy work schedules. Lines of communication will be open throughout this project. No fish removal work will be done without prior consultation and agreement by all parties – both public and private.

Response to Comment Letter #2

Dear FWP, I see that you are requesting public comment for eliminating other species of fish from Belt Creek, to allow for better habitation of the native Cut Throat [sic] trout. I am a trout fly fisherman, and I believe the Belt Creek drainage is a unique and special resource that needs to be managed in a way that will enable future generations to enjoy this resource. I am all for management practices that create healthy ecosystems for any body of water, but I am also concerned on how selecting one species for management, can be accomplished with out [sic] affecting the ecosystem as a whole.

Response: This project area is limited to Dry Fork Belt Creek. Historically the only trout native to this drainage was WCT. Returning the fish assemblage to historical conditions could actually move aquatic and terrestrial invertebrate assemblages toward a historical condition as well

(Lepori et al. 2012). Given the size of the project, if implemented, this project should provide a stable native trout fishery for numerous generations.

I might be way off base here, but with efforts to save the Cut Throat trout happening in different areas of MT, I am wondering if this will lead to regulatory boundaries in the future, that limit what influences can occur in these areas. I can see both positives and negatives to such situations, as “protected” species can reduce damaging environmental practices in an area, but there are always two sides of every debate, and practical and reasonable management will be argued long after I have an opinion. The point I’m making here is, landowners, sportsman, and industries, need to all find ways of co-existing, that still protect any native species, and reasonable people need to be the one that lead these groups and practices.

Response: One of the primary reasons for engaging in WCT restoration activities is to reduce the risk of future listing under the Endangered Species Act. Should WCT become federally listed species, Dry Fork Belt Creek would be subject to potential regulatory control of mining, grazing, logging, and water use. Statewide efforts to implement restoration projects show a good faith effort to restore the species and would be hugely important in informing decision making parties that listing would provide no additional benefit to the species.

One last thought, the Missouri River is the ultimate source of species introductions into the Belt drainage, and I’m not sure that you will ever control this influence. Flood years will constantly allow new species into the drainage inlets of all tributaries, and motivated species will constantly find there [sic] way.

Response: A separate but equally important facet of this project is construction of a fish barrier 1.8 miles upstream of the confluence of Belt Creek and Dry Fork Belt Creek. This barrier, which is currently under Federal Environmental Review, has been designed to be a barrier to fish at flows greater than a 100 year event (approximately 3,000 cfs).

When I look at the Belt drainage, I see Cut Throat, Brown, and Rainbow Trout as the main species of the colder water sections. I understand that Grayling used to be a native species as well, but I personally do not know of any one that has caught one in the last 10 years.

Grayling I’m sure are looked at like the model, of what one species can do to another, but I would never want to see the elimination of Browns and Rainbows in any system, to re-establish Grayling. This is just my personal opinion, but one that I’m sure many fly fishermen would agree with. So now the question is, do we eliminate Browns and Bows to allow the Cutties to fair better? My opinion is no. If we are talking about being able to select non-trout species, and eliminating them, then as a fly fisherman I am ok with, but how this is done, and if it is the right thing to do, is a hard question.

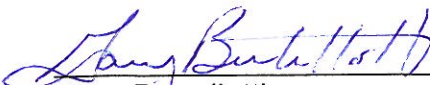
Response: There are no plans to eliminate brown or rainbow trout from Belt Creek or the vast majority of waters they currently inhabit. These are important sport fish and will be maintained as popular sport fisheries throughout Montana. This project is isolated to a drainage that opportunistically has a good site to construct a fish barrier. Without a good fish barrier site, the case with most streams in Montana, native species restoration will not be undertaken.

My thoughts are not very decisive thus far, but I will stand by the idea, that when management groups start manipulating a resource, it needs to be done for the right reasons, and reasons that will benefit the resource, for generations to come.

Response: We appreciate your comment and have laboriously analyzed the benefits, costs, and tradeoff inherent to this project. FWP believes that benefits of the project on many levels outweigh impacts of restoring WCT to the majority of the Dry Fork Belt Creek.

Decision:

Based on the Environmental Assessment, public comment, the current risk of extinction of the genetically pure westslope cutthroat trout in Dry Fork Belt Creek, and the need to continue conservation programs to prevent listing under the Federal Threatened and Endangered Species Act is my decision to proceed with Alternative 2, the proposed action. Alternative 2 involves removal of fish populations of non-native brook trout and rainbow trout and allows for downstream expansion of WCT that currently occupy 5 tributaries. Large drainages that support multiple life histories of WCT are extremely rare in the Missouri River drainage. Meshing current mine clean-up efforts with a large scale WCT restoration project will go a long way toward maintaining persistence of WCT in Montana, northcentral Montana in particular. The Draft Environmental Assessment, together with this Decision Notice, will serve as the final document for this proposal. This alternative provides the best opportunity to benefit the conservation and restoration of westslope cutthroat trout, helps relieve Endangered Species Act listing pressure and also serves to illustrate the State's commitment to perpetuating native fish species. This project will help preserve westslope cutthroat trout in the Two Medicine Drainage by replicating one of the few remaining populations of westslope cutthroat trout and expanding the overall range of westslope cutthroat trout by an additional 20 miles. I find there to be no significant impact on the human or physical environment associated with this project, except to help ensure the long-term persistence of pure, locally adapted westslope cutthroat trout in the Belt Creek drainage. Because of the large scope of this project, communication with private landowners and other agencies (DEQ, EPA, DNRC, and USFS) will be of foremost importance. Therefore I conclude the Environmental Assessment is the appropriate level of analysis, and that an Environmental Impact Statement is not required.


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